ATTORNEY DOCKET NO. 08146.0001U1
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
	)	
HALLER	)	Art Unit: 3632
	)	
Application No. 10/812,833	)	Examiner: Alfred J. Wujciak
	)	
Filed: March 30, 2004	)	Confirmation No. 3114
	)	
FOR: **DEVICE AND METHOD FOR SPRINGING A VEHICLE SEAT**	)	

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BALLARD SPAHR LLP
Customer Number 23859

September 30, 2009

Sir:

This is an appeal from the rejection of claims 1-13 and 15 in the Final Office Action mailed February 9, 2009 in the above-identified patent application. In view of this brief, the Appellant respectfully requests reversal of the rejections and allowance of the pending claims.

(1) REAL PARTY IN INTEREST

The real party in interest of this application is Grammer AG, a German corporation.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to Appellant or the undersigned.

(3) STATUS OF CLAIMS ON APPEAL

Claims 1-13 and 15 finally stand rejected by the Examiner in the final Office Action mailed February 9, 2009 and are now under appeal. Claim 14 was previously cancelled and is no longer under consideration.

The text of each claim on appeal, as pending, is set forth in the Claims Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Amendments after final rejection were filed on May 5, 2009. In the Advisory Action mailed May 15, 2009, the Examiner indicated that the amendments would be entered.

(5) SUMMARY OF THE INVENTION

Independent claim 1 recites an apparatus comprising a vehicle seat [Fig.4, element 20] having a seat part [Fig.4, element 20] and a lower part [Fig.4, element 22] and at least one air spring arranged for the height adjustment of the seat part and a control device for controlling the supply of at least one additional air volume to or from the air spring [page 3, lines 5-19; Fig.4, element 24]. The vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel. Additional air volume is supplied to the air spring when the vehicle seat is in the comfort range of travel, and the additional air volume is switched off when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel, under control of the control device [page 5, lines 4-8].

Independent claim 11 recites a method of springing a vehicle seat [Fig.4, element 20] having at least one air spring [page 3, lines 5-19; Fig.4, element 24] arranged between a seat part [Fig.4, element 20] and a lower part [Fig.4, element 22]. The vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel. The method includes the steps of automatically controlling the supply and discharge of at least one additional air volume to and from the air spring [page 4, line 30 to page 5, line 2], where an additional volume of air is supplied to the air spring when the vehicle seat is in the comfort range of travel and switched off when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel [page 5, lines 4-8].

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-5, 7-8 and 10 are anticipated by U.S. Patent No. 4,946,145 to Kurabe (hereinafter "Kurabe").

Whether claims 6, 9, 11-13 and 15 are obvious over Kurabe.

(7) ARGUMENTS

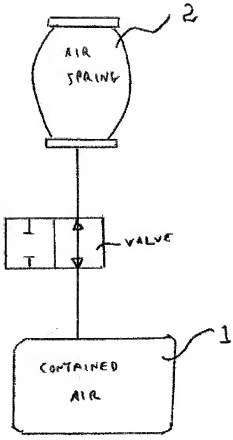
Claims 1-5, 7-8 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,946,145 to Kurabe.

This rejection reflects a misunderstanding of the Kurabe reference. Kurabe is directed to a seat level regulator, which can be shown for example by the figures of Kurabe. In Fig. 2(A) both valves 50, 52 are closed. In Fig. 3(A) a condition is shown in which the seat is too low. Therefore, the valve 50 is opened. Air is then supplied to the air spring, as shown in Fig. 3(B).

If the valve 52 is opened, which means that the seat is too high, then you have the condition as shown in Fig. 4(A). In this situation, air is exhausted from the air spring, as shown in the active situation according to Fig. 4(B).

Compared to that, the present invention has a very simple valve construction that is illustrated, for comparison to the Kurabe figures, in Figure A.

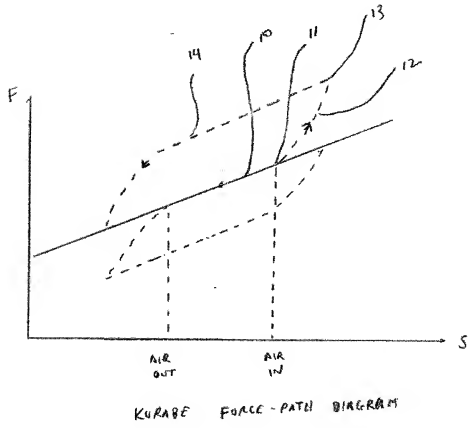
FIGURE A



This valve can only connect or disconnect a connection line between the additional volume and the air spring. This connection is opened so long as the seat according to the subject of the present application is inside of a comfort range. If the seat leaves the comfort range, the connection line will be closed. By using this additional volume 1 in connection with the air spring 2, as shown in Figure A, it is possible to get a really large stamping volume inside of the comfort range and, therefore, provide a force line inside the comfort range which is nearly horizontal (see Fig. 1, item 10 in the present application).

By comparison, an air spring force diagram of the function shown in Kurabe produces a diagram as is shown in Figure B.

FIGURE B



This diagram shows that the center area 10 is not a comfort range with a horizontal force line. This range has an inclined slope. When a valve is opened in Kurabe, at the distance point 11 where air is compressed in, the curve has a steeper slope as is shown at reference sign 12. When the situation of compressing in the additional air is complete, the seat can be moved starting from the point 13 along the force line 14, which is parallel to the

original force line 10. This parallel line 14 results from the additional air inside of the air spring.

Contrary to that, according to the present application there is no additional air during the backward movement of the air spring. Rather, during the backward movement of the air spring the air volume inside of the air spring is the same, since the additional volume of air was disconnected. This means, in the present invention, that the air volume in the air spring during the upward and downward movement outside of the comfort range is the same, and, therefore, it is possible to reach exactly the same point during the downward or backward movement as it was at the starting point at the beginning of this movement outside of the comfort range.

In Figure B you can also see the illustrated force-path diagram for the Air-out situation, in addition to the Air in-situation, for Kurabe. It is quite clear by comparing the force diagrams for Kurabe, as shown by Figure B, and those of the present application that they address different subjects and operations. Again, as previously argued, the distinction the examiner continues to overlook is that claim 1 recites switching an additional volume of air, rather than compressing air into, or exhausting air out of, an existing containing volume. As such, Kurabe does not anticipate claim 1 or any claims dependent thereon.

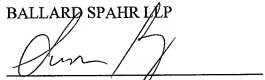
The examiner also rejected claims 6, 9, 11-13 and 15 under 35 U.S.C. 103(a) as being unpatentable over Kurabe. For the same reasons given above, Kurabe is inapposite as a reference with respect to the invention set forth in these claims.

Therefore, it is respectfully submitted that claims 1 and 11 are patentable over Kurage and that these claims should be allowed. Since the remaining claims 2-10, 12, 13 and 15 are dependent either directly or indirectly from one of these claims, all claims should now be allowed.

A Credit Card Payment submitted herewith via EFS Web authorizing payment in the amount of $540.00, representing the fee under 37 C.F.R. 41.20(b)(2), large entity, is enclosed. This fee is believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

BALLARD SPAHR LLP



Sumner C. Rosenberg
Registration No. 28,753

BALLARD SPAHR LLP
Customer Number 23859
(678) 420-9300 Phone
(678) 420-9301 Fax

CERTIFICATE OF ELECTRONIC TRANSMISSION UNDER 37 C.F.R. § 1.8			
I hereby certify that this correspondence, including any items indicated as attached or included, is being transmitted via electronic transmission via EFS-Web on the date indicated below.			
Name of Person (Print/Type)	Montrell Doster		
Signature	Montrell Doster	Date	9/30/09

(8) CLAIMS APPENDIX

1. (Previously Presented) An apparatus comprising:
a vehicle seat having a seat part and a lower wherein the vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel, wherein a border is defined at the point of transition between the comfort range and each out of comfort range, where the borders between said comfort range of travel and out-of-comfort ranges each define a run in/run out position,
at least one air spring arranged for the height adjustment of the seat part and a control device for controlling the supply of at least one additional air volume to or from the air spring,

wherein an additional air volume is supplied to the air spring when the vehicle seat is in the comfort range of travel, and at a selectable run in/run out position of the air spring, the additional air volume is switched off when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel, under control of the control device, such that the volume in which the air to be compressed is less in the out-of-comfort range than in the comfort range of travel and the inclines in the profile of a force-path air spring characteristic of the air spring in a first and in at least one further range are different from one another.

2. (Previously Presented) The apparatus according to Claim 1, characterized in that in the range of the force-path air spring characteristic the additional air volume that can be supplied or discharged is greater or smaller than in the first range or is completely switched off.

3. (Previously Presented) The apparatus according to Claim 1, characterized in that

the additional air volume in the further range can be supplied to or discharged from the air spring in each case in a number of stages, preferably in three stages.

4. (Previously Presented) The apparatus according to Claim 1, characterized by at least one pneumatic directional control valve for supplying/discharging the additional air volume(s).

5. (Previously Presented) The apparatus according to Claim 1, further comprising the automatic height adjustment of the seat part at the start of a use operation by a user having a predefined weight wherein air is supplied to or discharged from the air spring under control of the control device such that the air spring adjusts to a central position in the first range of the force-path air spring characteristic.

6. (Previously Presented) The apparatus according to Claim 5, further comprising a regulator switch that is arranged in the region of an armrest of the vehicle seat.

7. (Previously Presented) The apparatus according to Claim 1, characterized in that the first range within the force-path air spring characteristic can be displaced by an operating device operable by the user to operate the control device such that the seat part is adjusted to the desired height.

8. (Previously Presented) The apparatus according to Claim 1, further comprising a recognition device for recognizing a user using the vehicle seat by his weight.

9. (Previously Presented) The apparatus according to Claim 1, characterized in that the additional air volume that can be supplied and discharged is greater than 0.1 liter in the first range of the force-path air spring characteristic and is either 0.0 liter or greater than 0.0 liter in the further range.

10. (Previously Presented) The apparatus according to Claim 1, characterized by recognition and switching devices for recognizing the selectable run in and run out positions of the air spring and for switching the spring device to supply and discharge the changeable additional air volume by means of the control device.

11. (Previously Presented) Method of springing a vehicle seat, having at least one air spring arranged between a seat part and a lower part for the height adjustment of the seat part, wherein the vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel, wherein a border is defined at the point of transition between the comfort range and each out of comfort range, where the borders between said comfort range of travel and out-of-comfort ranges each define a run in/run out position, comprising the steps of automatically controlling the supply and discharge of at least one additional air volume to or from the air spring, supplying an additional air volume to the air spring when the vehicle seat is in the comfort range of travel, and, at a selectable run in/run out position of the air spring, switching off the additional air volume when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel, such that the volume in which the air to be compressed is less in the out-of-comfort range than in the comfort range of travel and the inclines in the profile of a force-path air spring characteristic of the air spring in a first and in at least one further range are different from one another.

12. (Previously Presented) Method according to Claim 11, further comprising the step of recognizing the exceeding of the predefined run in and run out position of the air spring.

13. (Previously Presented) Method according to Claim 12, wherein the changeable additional air volume is supplied to the air spring only when there is vibration, regularly and at a high frequency by the air spring moving in and out.

14. (Cancelled).

15. (Previously Presented) Method according to Claim 11, wherein
in the event of insufficient vibration damping in the end of travel regions of the air spring with respect to a residual travel path, the changeable additional air volume is reduced towards one end of travel until a sufficient damping of the air spring is achieved without touching of the end of travel by an air spring lifting cylinder.

(9) EVIDENCE APPENDIX

None.

(10) RELATED PROCEEDINGS APPENDIX

None.